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store your future



ROCPORT 3Cx
User Manual

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Safety Notices

- The warranty is void if an unauthorized person attempts and/or repairs the hard disk drive.
- Read all Manuals and instructions carefully before using the device.
- Do not spill any liquid or insert any object into the device.
- Use the device within the specifications indicated, including but not limited to: power requirements, temperature, humidity, sunlight and magnetism from other devices such as computers and televisions.
- Please visit the Rocstor website, www.rocstor.com for further information concerning specifications and use of the device.

General Notices

- Consistently make multiple backup copies of your data for your protection. Hard disk drives are subject to failure at any time.
- Rocstorage, Inc. shall not be held liable for loss of data or the restoration or recovery of data on the device. Please view complete Limited Warranty Information in this manual or on the Rocstor website (www.rocstor.com) for further details.

Capacity Disclaimer

Actual accessible hard drive capacity will indicate up to 10% lower than stated under different Operating Systems and formatting.

The storage volume is measured in total bytes before formatting. References to round numbers of gigabytes or terabytes are an approximation only. For example, a disk drive labeled as having 500GB (gigabytes) has space for approximately 500,000,000,000 bytes before formatting. After formatting, the drive capacity is reduced by about 5% to 10% depending on the operating system and formatting used.

Care and Handling

The following instructions concern the proper care and handling of Rocport ID Drives. Please take a moment to review these instructions.

- As with any storage solution, it is recommended that all data be backed up regularly.
- Ensure that you follow the proper removal procedure to disconnect the Rocport ID drive.
- Do not move or disconnect this device from your computer while it is reading or writing data. This may cause damage to the Rocport ID drive.
- Do not place this device near a heat source or expose it to direct flame.
- Do not place the device near any equipment generating strong electromagnetic fields. Exposure to strong electromagnetic fields may cause the device to malfunction or data to be corrupted.
- Do not drop or cause shock to your Rocport ID drive.
- Do not spill any liquid or insert any object into the device.

- Do not attempt to disassemble and service the Rocport ID drive during the warranty period.
- Please read the Safety Notices and Limited Warranty information in this Manual and on the Rocstor website (www.rocstor.com) for further details.



Introduction

ROCPORT 3Cx – USB (1.1/2.0)

Rocport 3Cx pocket drives deliver outstanding performance and reliability in multiple colors. Designed and engineered in the U.S.A. to meet the needs of the demanding mobile data storage market, the ROCPORT 3Cx 2.5" external hard drive is compatible with both Window and Macintosh environments.

Like other Rocstor products, ROCPORT drives are both bus-powered and bootable. The new ROCPORT pocket drives contain a fast, high capacity 2.5" SATA drive mechanism, with up to 480 MB/sec transfer speeds. Sophisticated users will appreciate the ROCPORT 3Cx innovative aluminum enclosure design, touch, quality and features.



Choose Rocstor drives and “store your future”

Box Contents

- Rocport 3CX , external hard disk drive
- USB “Y” cable
- Quick Installation user Guide
- Comprehensive manual on CD
- Carrying case



Rocport 3Cx



USB Cable



Optional Power



Carrying Case



Quick Installation
Guide

Minimum System Requirements:

Mac Users:

Hardware: USB (1.1 or 2.0) port(s.)

Mac: PowerPC or Intel processor running Mac OS 9, X, Leopard, Snow Leopard

Recommended memory: 512 MB RAM

Window Users:

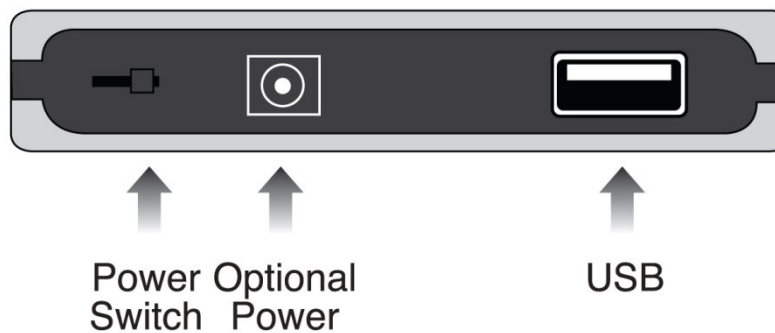
Hardware: USB (1.1 or 2.0) port(s.)

Operating Systems: Microsoft Windows 2000, Me, XP, Vista, Windows 7

Recommended memory: 512 MB RAM

Connectors

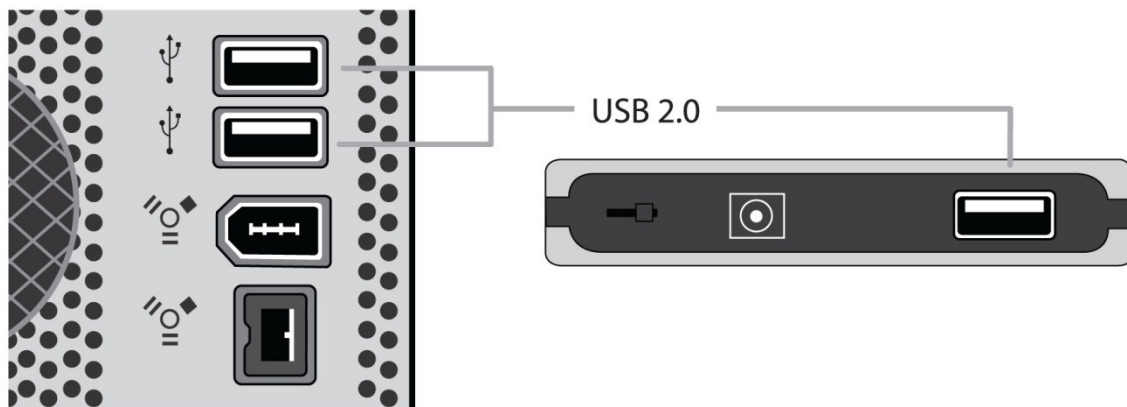
- USB 2.0 port x1



QUICK INSTALLATION

How to Connect the Interface Cables - Connecting the Drive

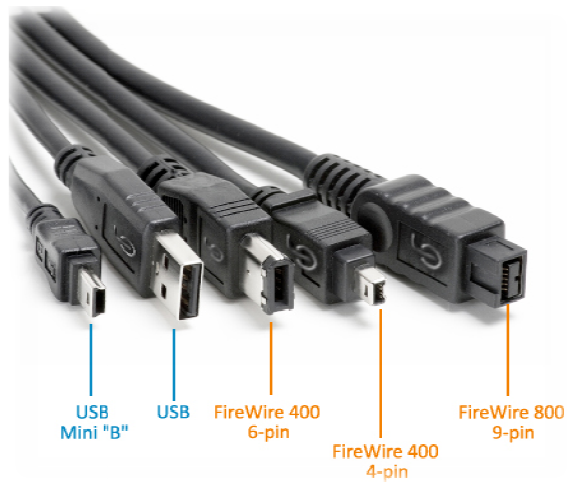
1. Turn ON your computer and wait until it fully boots up to load all programs.
2. When using USB, connect two ends of the USB “Y” cable to the USB ports of your computer (or via Power Hub that is connected to your computer) and then the other end to the USB port in the Rocport. Upon connection, a Blue light on the Rocport drive will turn ON.



3. The Hard drive is preformatted for Plug-and-Play operation. After a few seconds a Rocstor HD icon will show on “My Computer” folder under the Windows OS. Under the Mac OS, the Rocstor HD icon will appear on the “Desktop.”
4. Click (double click) on the Rocstor HD icon to access the drive.

*You may also refer to the Rocstor website to view or download a full version of the Rocport 3CX manual. www.ROCSTOR.com

Cable Types:



USB supports three data transfer rates:

- USB 2.0: A Hi-Speed (USB 2.0) rate of 480 Mbits/s (60 MB/s).
- USB 1.1: A **Full Speed** rate of 12 Mbits/s (1.5 MB/s).
- USB 1.0: A **Low Speed** rate of 1.5 Mbits/s (187 KB/s).



Installing Your Drive

All Rocstor hard drives are formatted as blank FAT32 (32-bit file allocation table) volumes {unless otherwise stated on the box} that are compatible with most modern Windows and Macintosh operating systems. To begin using your Rocstor drive, simply connect a data cable. There's no need to shut down your computer because your Rocstor drive is hot-pluggable. Just plug it in and it's ready to use.

Rocport 3Cx as a bootable device

If you intend to use the drive as a startup device, check the documentation that came with your computer to confirm compatibility with the various interfaces. PowerPC-based Macs require FireWire connections for startup disks, whereas Intel-based Macs can use either FireWire or USB connections.

Furthermore, using the drive as a startup device requires installing an authorized copy of the Windows or Mac operating system (available separately from Microsoft and Apple, respectively). To install the Mac OS 9 or OS X, you must reformat the drive as a Mac OS Extended volume with Disk Utility. An Intel-based Mac cannot start from a device formatted on a PowerPC-based Mac, or vice versa.

Disconnecting Your Drive

Never disconnect or turn off an external drive when its activity light is ON. External drives must be properly unmounted (or disconnected) to avoid data loss and possible damage to the hard disk drive or computer.

PC: The easiest ways to safely unmount an external hard drive on your PC is to right-click the device removal icon next to the clock in the system tray. Then choose Safely Remove Hardware. Choose the external device you want to remove, and then click Stop. An alert will notify you if the drive is in use by an application. If in use close any open documents or applications on the drive and try again. Windows will display an alert when you can safely disconnect or turn off the drive.

Mac: The easiest way to safely unmount an external hard drive is to drag its Finder icon to the Trash. An alert will notify you if the drive is in use by an application. Close any open documents or applications on the drive and try again. When the drive's icon no longer appears on the Finder's Desktop and the drive's activity light is green, you can safely disconnect or turn off the drive.

Reformatting Your Drive

As mentioned previously, all Rocstor hard drives are formatted as blank FAT32 volumes {unless otherwise stated on the box} that are compatible with most modern Windows and Macintosh operating systems. However, you can use your normal disk management tools to erase or

reformat the drive if needed. For example, Windows users may want to reformat the drive as an NTFS (new technology file system) volume, or Mac OS X users may wish to reformat the drive as a Mac OS Extended (Journal) or UFS (Unix file system) volume.

Please note that all of your data will be lost if the volume (Hard Drive) is formatted or reformatted.

Reformatting via PC (Window based computers)

Right-click the Rocport drive in the “My Computer” folder, then choose Format. In the dialog window that appears, choose the desired capacity, file system and allocation unit size and then click Start.

Reformatting via Mac

Open Disk Utility (/Applications/Utilities). Select the drive in the list at the left, then click the Erase tab. Choose the desired volume format, specify a name, then click Erase.

PARTITIONING AND FORMATTING THE ROCPORT 3CX DRIVE ON A MAC OS

All Rocstor drives are factory formatted with FAT32, unless otherwise stated on the retail box.

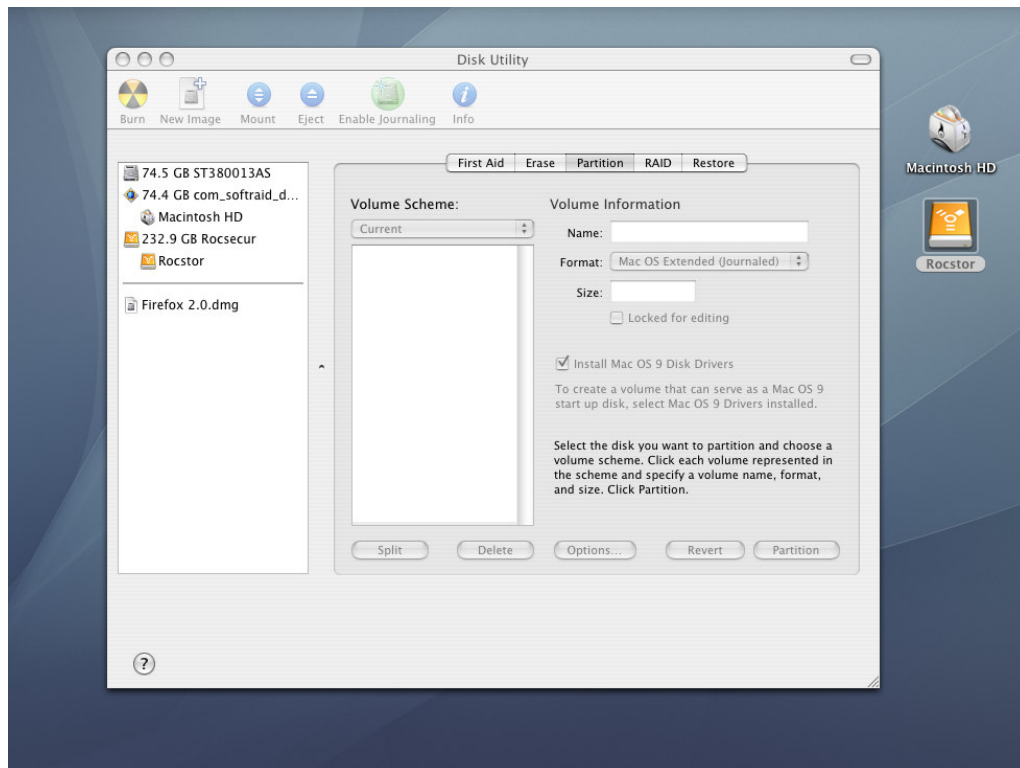
WARNING: Formatting and Partitioning the Rocport Drive will destroy all of its data. To protect your data, back it up before formatting or partitioning this device.

IMPORTANT NOTES:

1. All programs should be closed before beginning.
2. Connect the Rocstor hard disk drive to your computer using (one) appropriate cable.
3. Rocport is bus-powered through FireWire ports and turn ON automatically. With USB connections you may need to connect to more ports to receive enough power depending on your computer. When connecting the Rocport drive with a USB port, certain laptop computers may not provide enough power to operate the drive. To overcome this problem, connect the Rocport drive using a USB Y-connector or use an external power source. This problem is likely to occur when using certain brands of laptop computers.
4. "Click" means left click. "Right Click" will be so labeled.
5. Some computers are set so a single "click" will perform the task, such as opening a window. Depending on your mouse setting, you may have to double click to get to the next window. If a single click does not open the next window, please double click.

INSTRUCTIONS FOR PARTITIONING AND FORMATTING FROM FAT32 to HFS+:

1. Connect the Rocstor drive to the computer via a port.
2. The drive will appear as an icon on the Desktop on the middle right side. The icon will represent the method of connection (USB or FireWire).



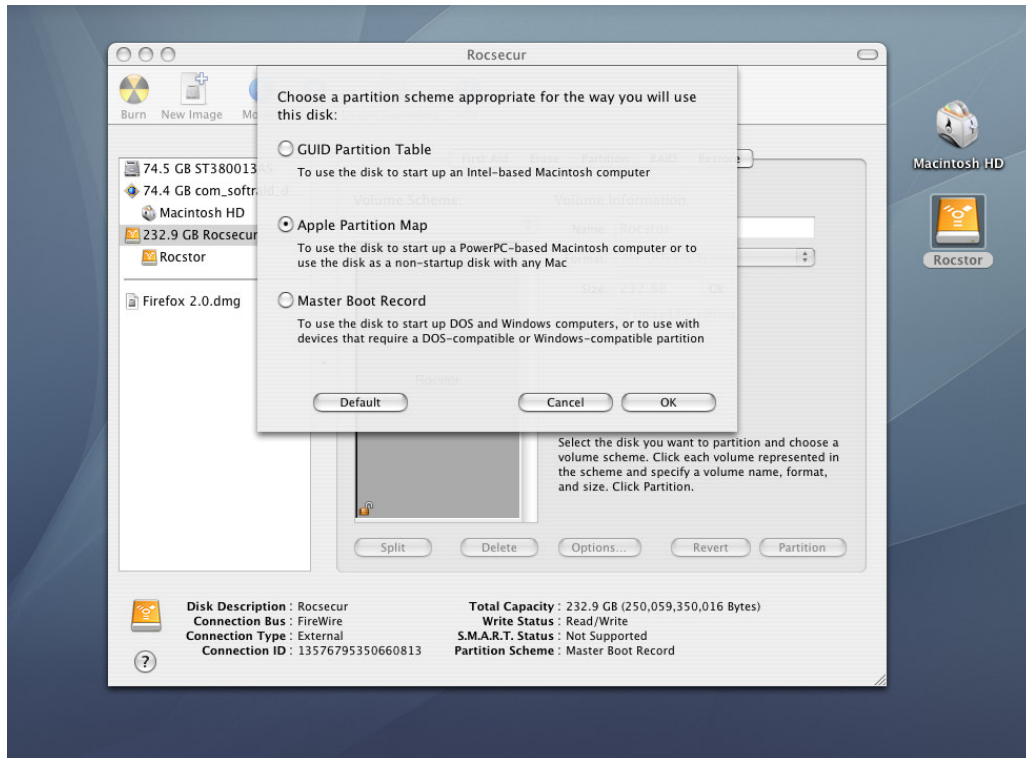
Note: If the Hard Drive is connected via USB port, the desktop would indicate the USB  on the “Macintosh HD” icon. The same procedures would also apply to the following steps.

3. Once the icon appears on the “Desktop” click on the “Macintosh HD” icon.

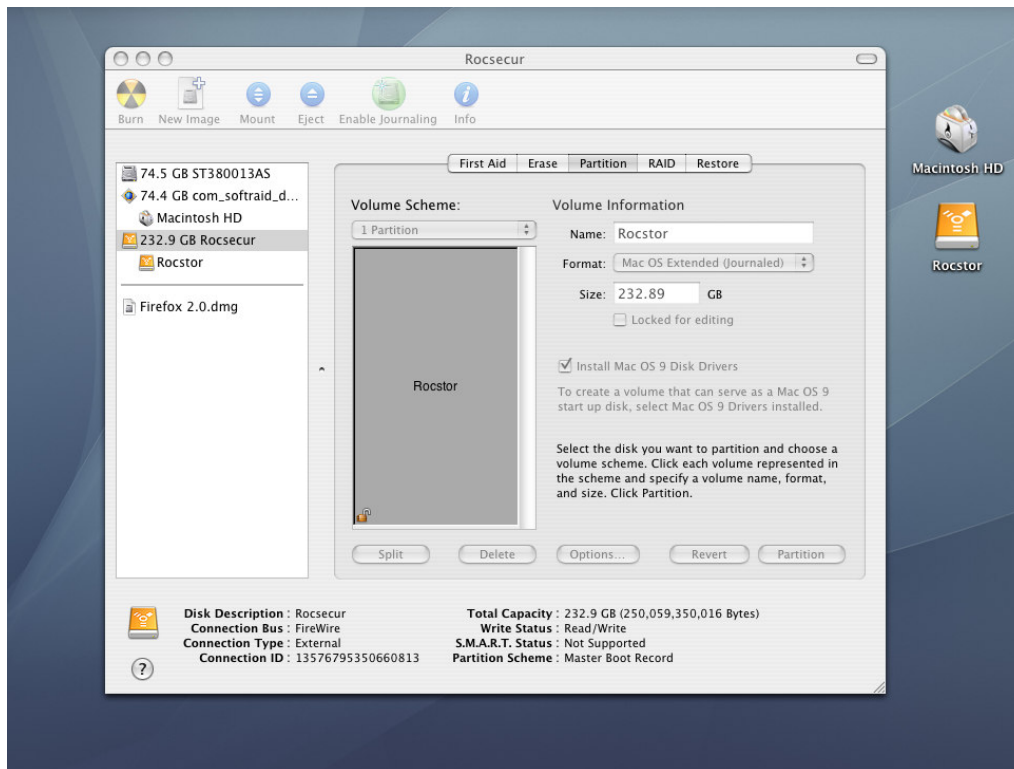


4. In the “Macintosh HD” menu, click on the “Applications” icon.

5. If you are using Tiger, click on Options on the lower center of the window. Select the Partition Scheme for your Rocstor drive. Suggest you select “Apple Partition Map” then click OK.

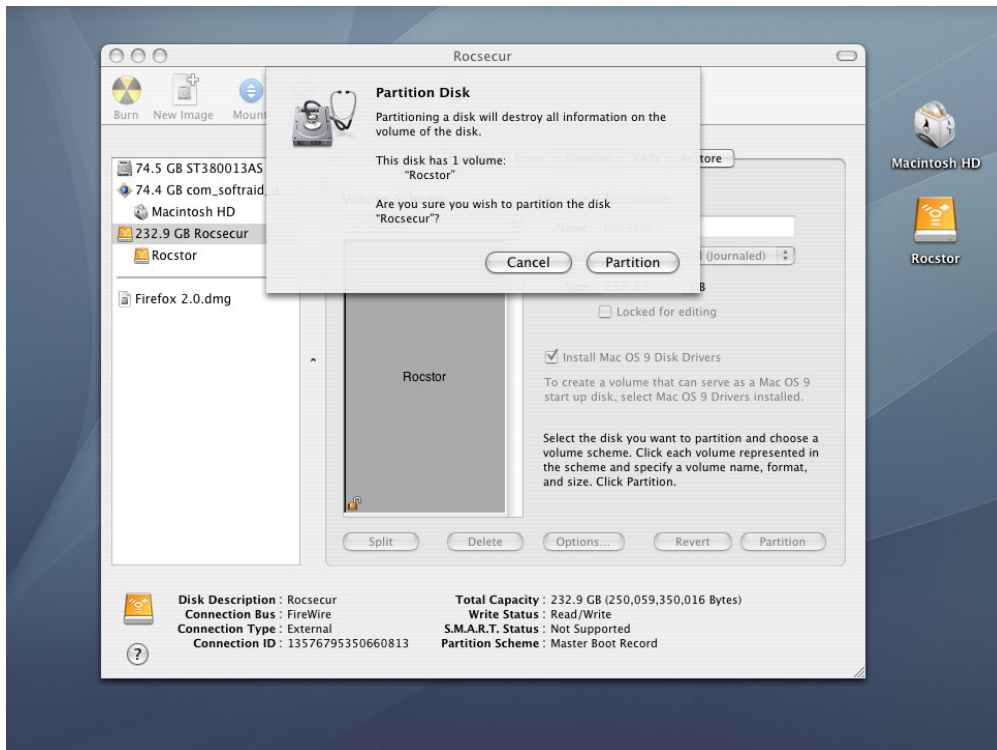


6. Volume Information: select a name for your drive.

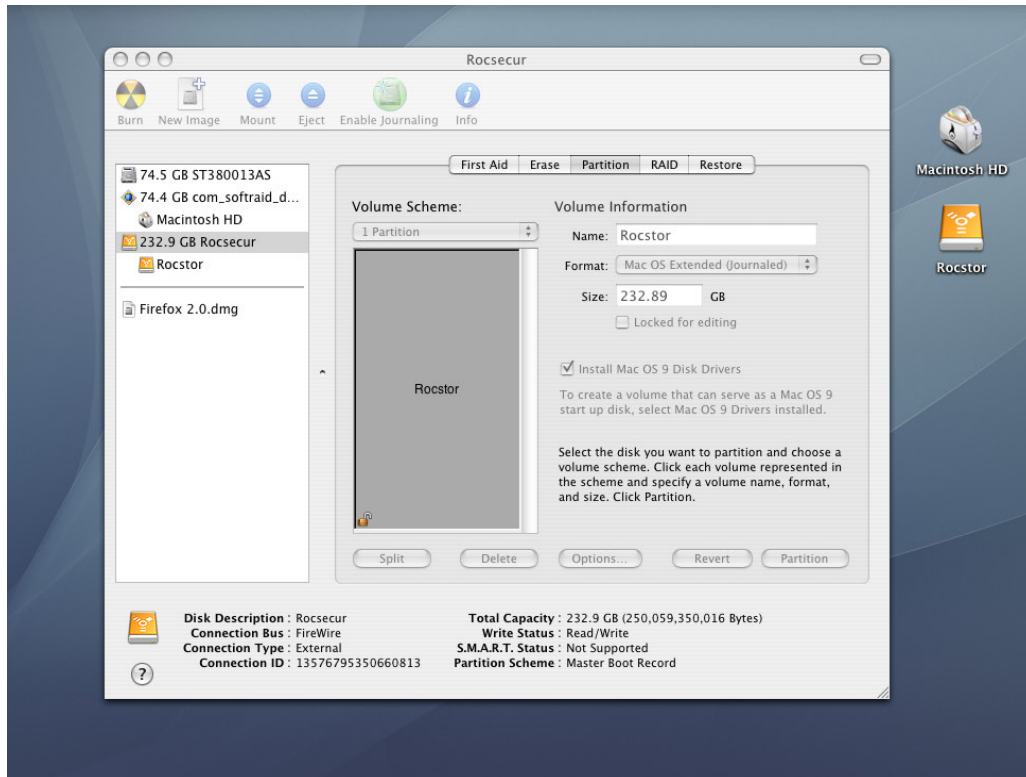


7. Format: Click on either the “Format” area or the Blue up/down arrows. Select Mac OS extended (journal).

8. After selecting the type of format, click the “Partition” tab in the lower right of the screen. On the next screen, “Partition Disk”, click “Partition” again.



- The drive will begin to format and upon completion; the same icon that first appeared on the Desktop will reappear with your designed name on the Desktop.



- Exit.

PARTITIONING AND FORMATTING THE ROCPORT 3CX DRIVE ON WINDOWS 2000, XP AND VISTA

All Rocstor drives are factory formatted with FAT32, unless otherwise stated on the retail box.

WARNING: Formatting and Partitioning the Rocport Drive will destroy all of its data. To protect your data, back it up before formatting or partitioning this device.

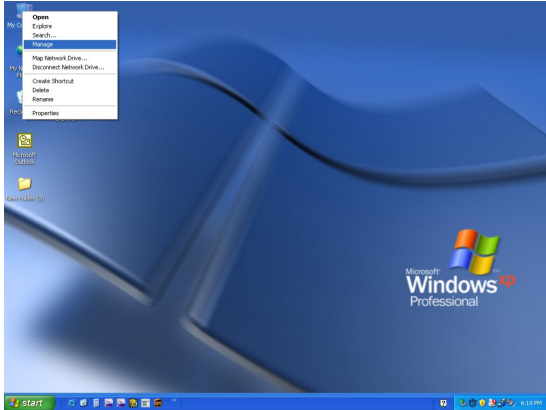
IMPORTANT NOTES:

1. All programs should be closed before beginning.
2. Connect the Rocstor hard disk drive to your computer using the appropriate cables.
3. Rocport is bus-powered through FireWire ports and turn ON automatically. With USB connections you may need to connect to more ports to receive enough power depending on your computer. When connecting the Rocport drive with a USB port, certain laptop computers may not provide enough power to operate the drive. To overcome this problem, connect the Rocport drive using a USB Y-connector or use an external power source. This problem is likely to occur when using certain brands of laptop computers.
4. The initial goal is to reach the Control Panel. If you know how to get there, skip this section and go directly to Instruction 1 (Instructions for Partitioning and Formatting From FAT 32 to NTFS).
5. The ultimate goal is to reach Disk Management. If you know how to get there, skip this section and go directly to Instruction 4 (Instructions for Partitioning and Formatting From FAT 32 to NTFS).
6. Due to different views that are possible on Windows operating systems (2000, XP, Vista), we will provide various ways of reaching the Control Panel.
7. "Click" means left click. "Right Click" will be so labeled.
8. Some computers are set so a single "click" will perform the task, such as opening a window. Depending on your mouse setting, you may have to double click to get to the next window. If a single click does not open the next window, please double click.

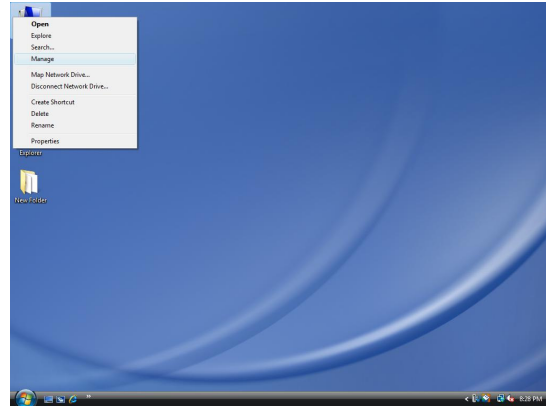
DIFFERENT WAYS TO GET TO THE CONTROL PANEL:

(You may use any one of the following methods)

1. If the icon “My Computer” shows on your desktop, click or double click on the icon. Under “Other Places” click on “Control Panel.”

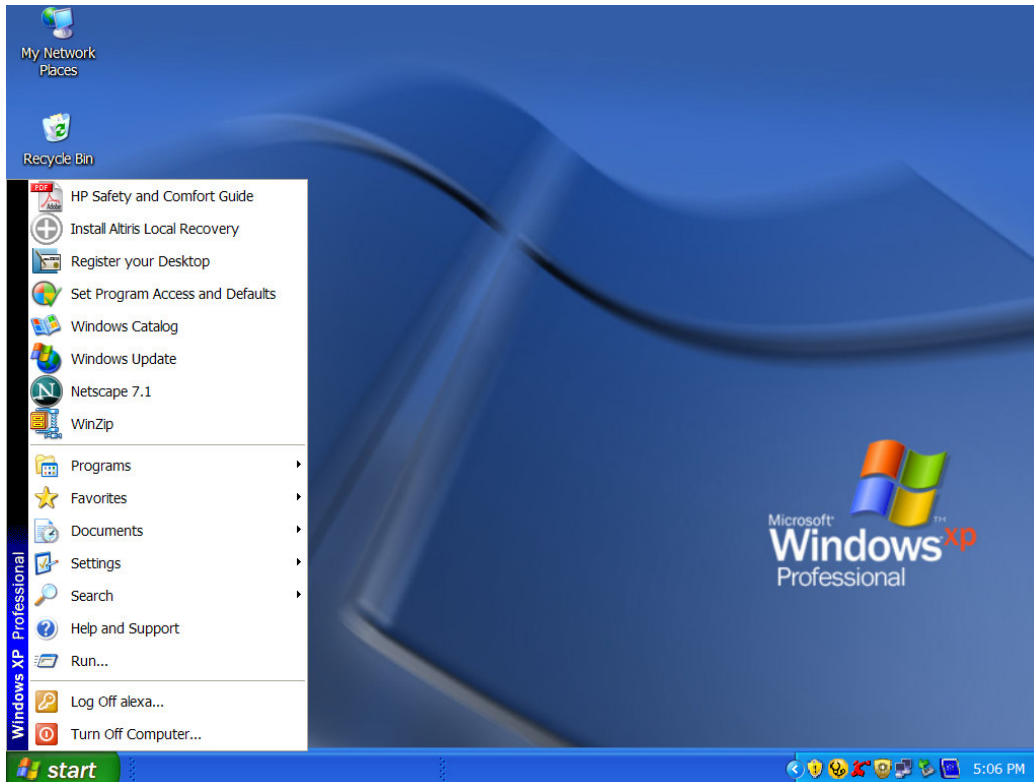


Under Windows XP

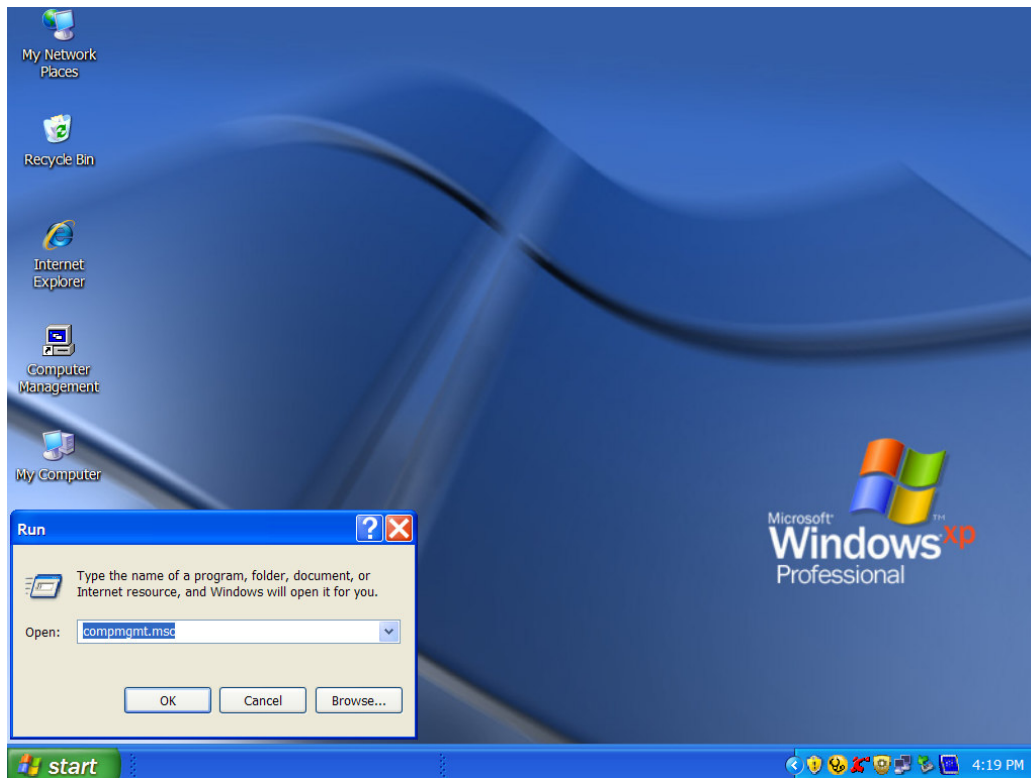


under Vista OS

2. If the icon “My Computer” does not show on your desktop, click on the Start icon on the lower left of your screen. If the Control Panel link is displayed, click on the Control Panel link.

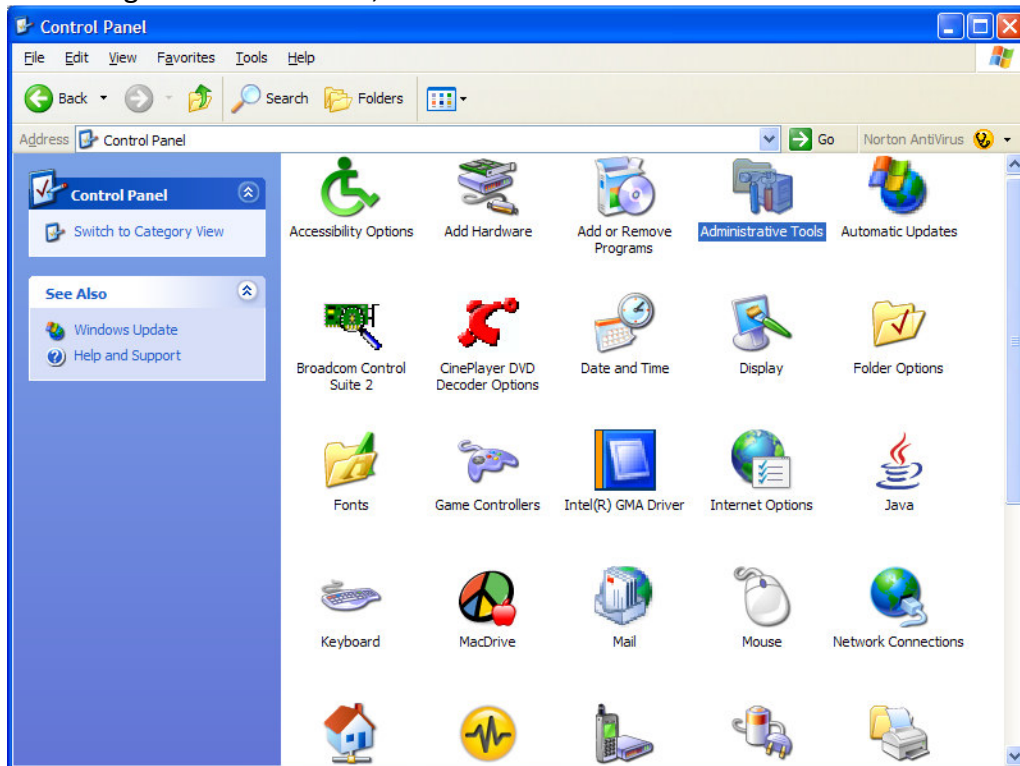


3. If the icon “My Computer” does not show on your desktop, click on the Start icon on the lower left of your screen. If the Control Panel link **is not** displayed, click on the Settings link and then click on the Control Panel link.
4. Click on the Start icon on the lower left of your screen. Click on Run. Delete anything listed in the Open window. Type the following: compmgmt.msc and then click OK. Skip to INSTRUCTION # 4 (Instructions for Partitioning and Formatting from FAT 32 to NTFS {page 26}).

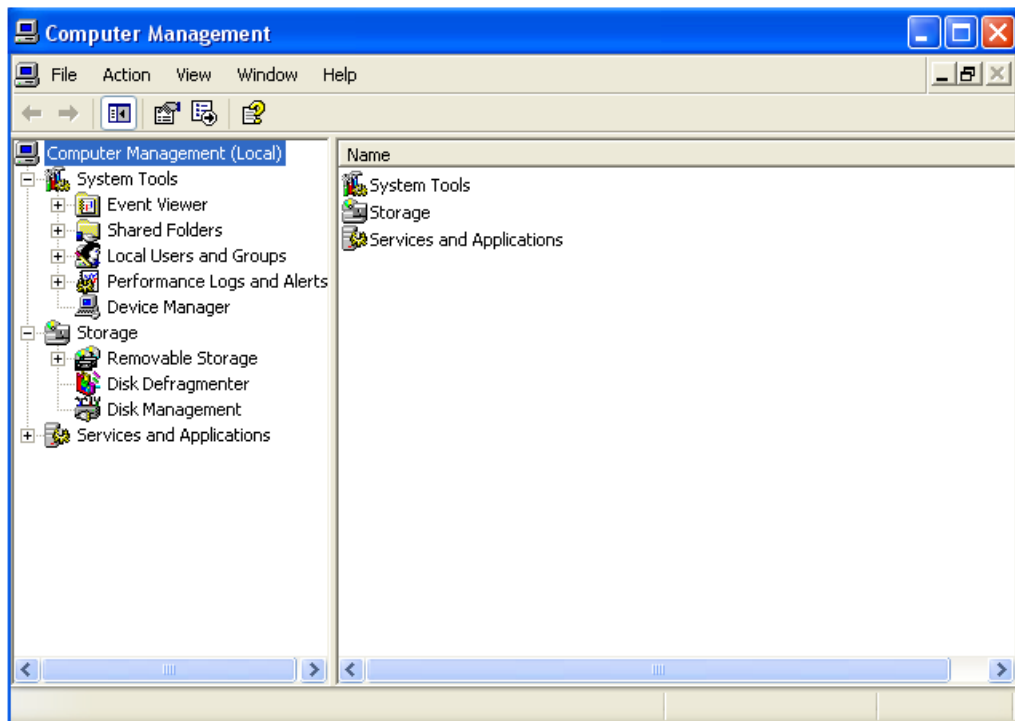


INSTRUCTIONS UPON REACHING CONTROL PANEL:

- a. After reaching the Control Panel, click on Administrative Tools.



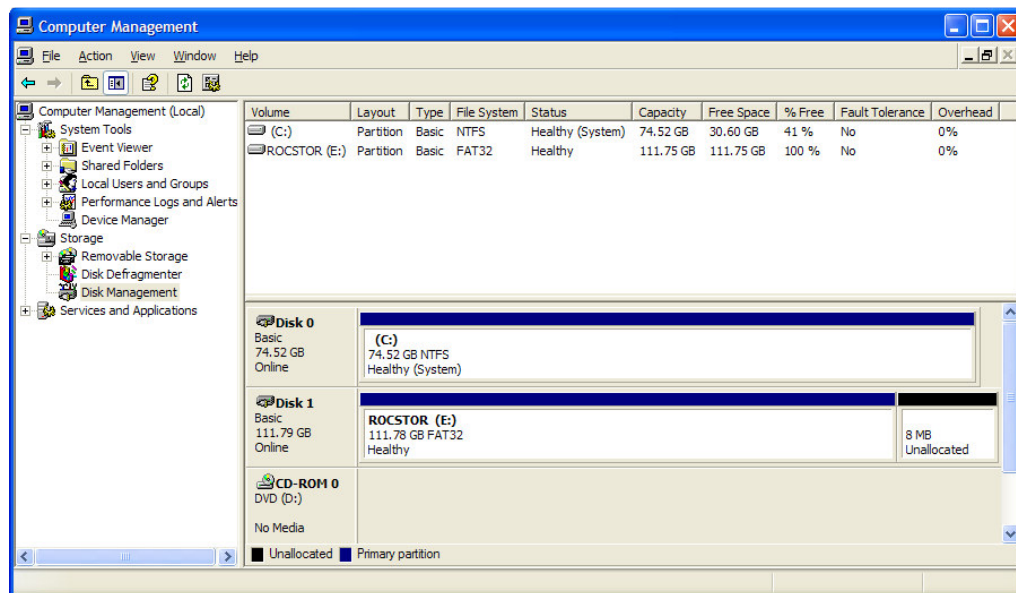
- b. After reaching Administrative Tools, click on Computer Management.
- c. After reaching Computer Management, click on Disk Management.



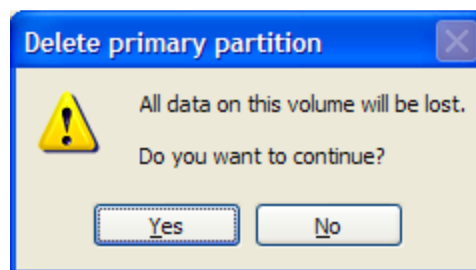
INSTRUCTIONS FOR PARTITIONING AND FORMATTING FROM FAT32 to NTFS:

1. In the “Disk Management” window, right click the Rocstor drive in the upper portion of the menu to highlight it. In the drop down menu, select “Delete Partition.”

WARNING: Formatting and Partitioning the Rocport Drive will destroy all of its data. To protect your data, back it up before formatting or partitioning this device.

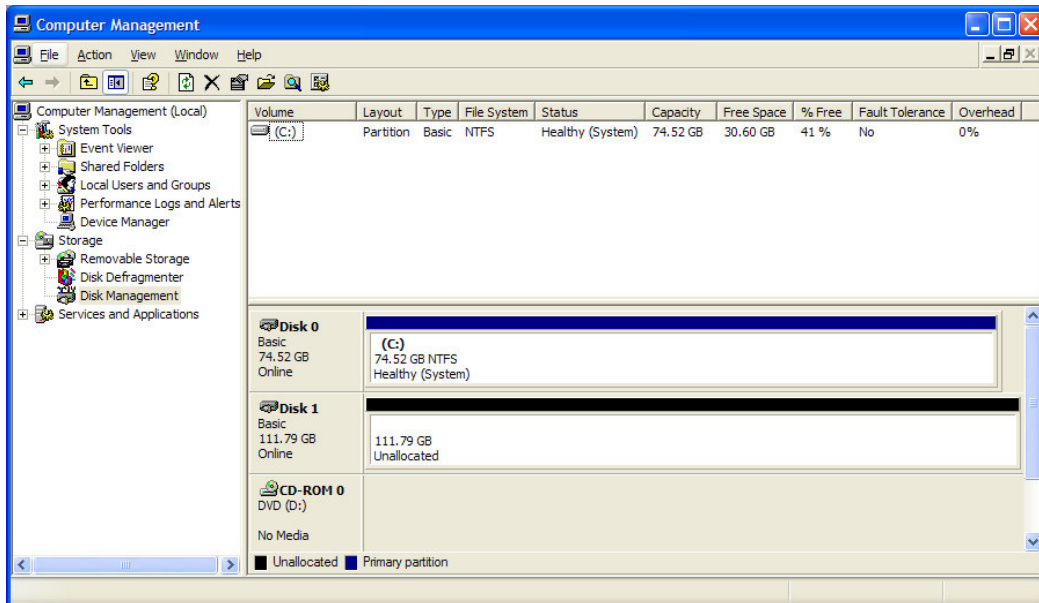


2. The next window is “Delete primary partition.” Click OK.

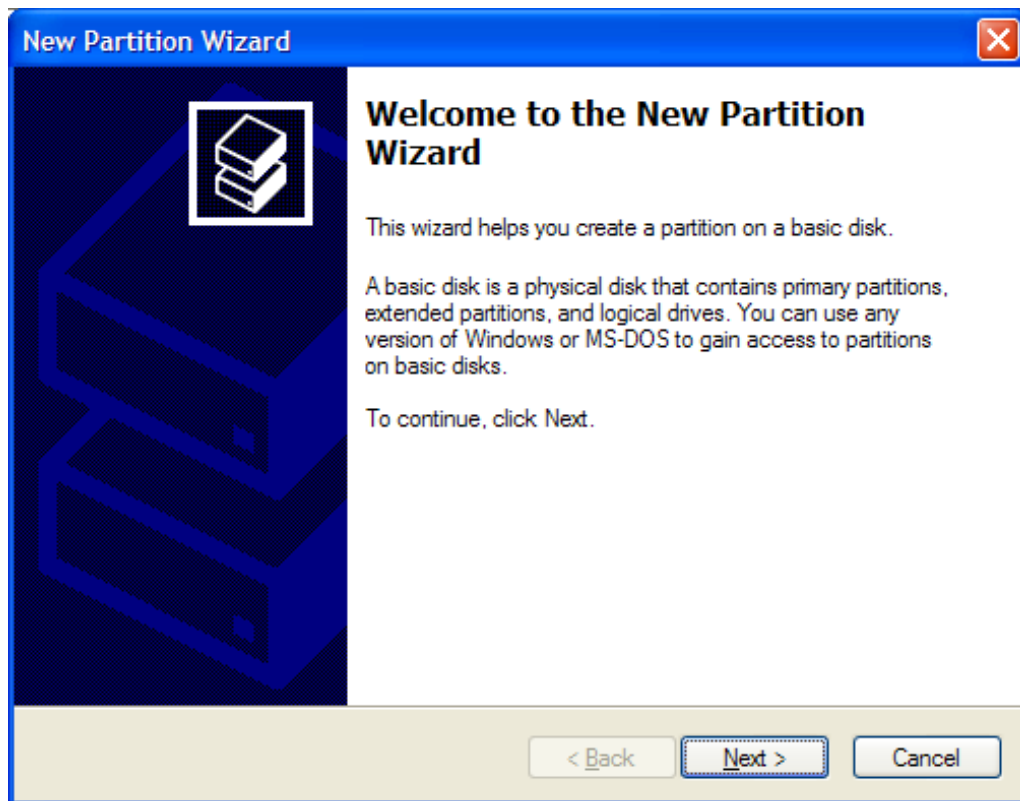


3. At this point the Rocstor drive will not show up on the “Disk Management Volume” window in the upper menu.

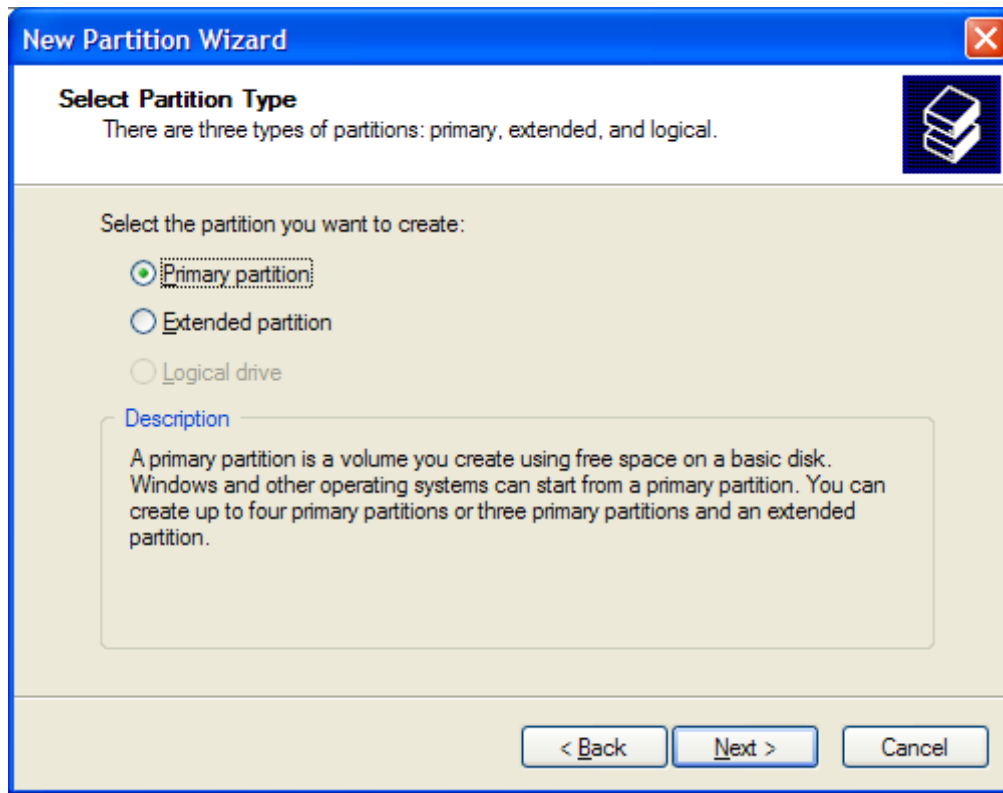
4. The Rocstor drive will show up in the lower menu as an “Unallocated” disk.



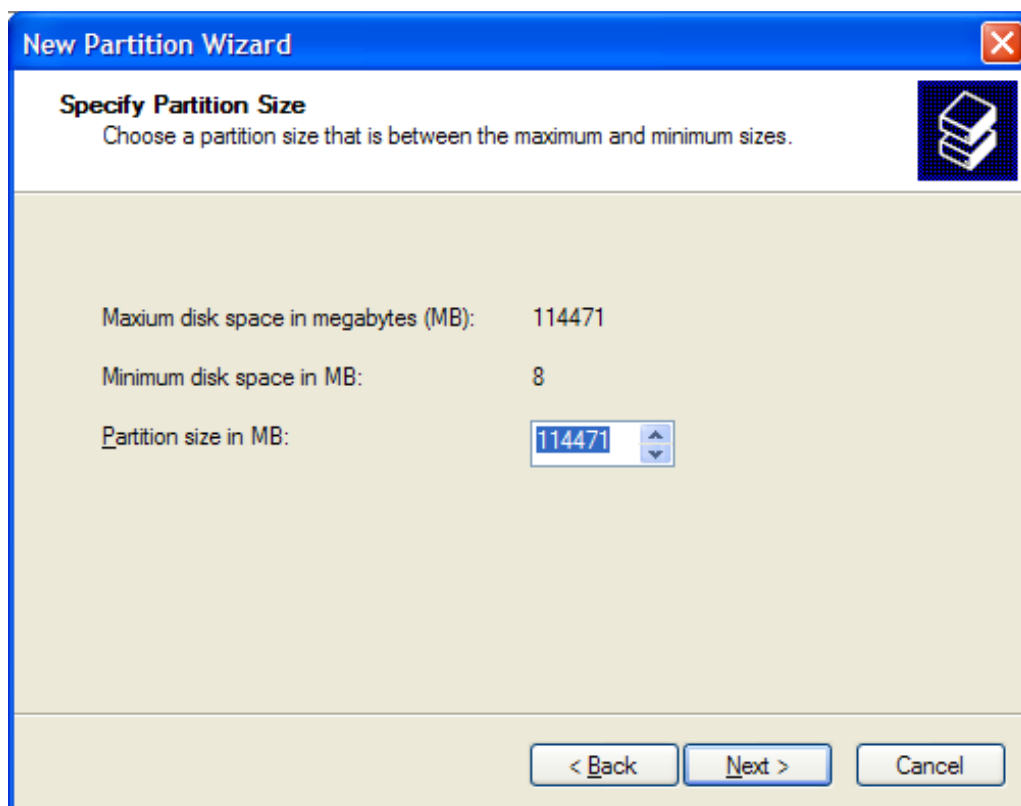
5. Right click anywhere in the “Unallocated” disk area in the lower menu.
6. Click on “New Partition.”
7. You are taken to “Welcome to the New Partition Wizard.” Click “Next”.



8. Click on “Primary partition” (it should be selected as the default partition). Click “Next”.



9. Under “Specify Partition Size,” click Next to accept the default setting, which is the maximum size allowed.



The image shows a Windows-style dialog box titled "New Partition Wizard". The title bar is blue with a red close button in the top right corner. The main area has a light beige background. At the top, the text "Specify Partition Size" is in bold, followed by the instruction "Choose a partition size that is between the maximum and minimum sizes." To the right of this text is a small icon of a hard drive. Below the instruction, there are three lines of text: "Maxium disk space in megabytes (MB):" followed by the value "114471"; "Minimum disk space in MB:" followed by the value "8"; and "Partition size in MB:" followed by a text box containing "114471" and a small up/down arrow button. At the bottom of the dialog, there are three buttons: "< Back", "Next >", and "Cancel".

New Partition Wizard

Specify Partition Size
Choose a partition size that is between the maximum and minimum sizes.

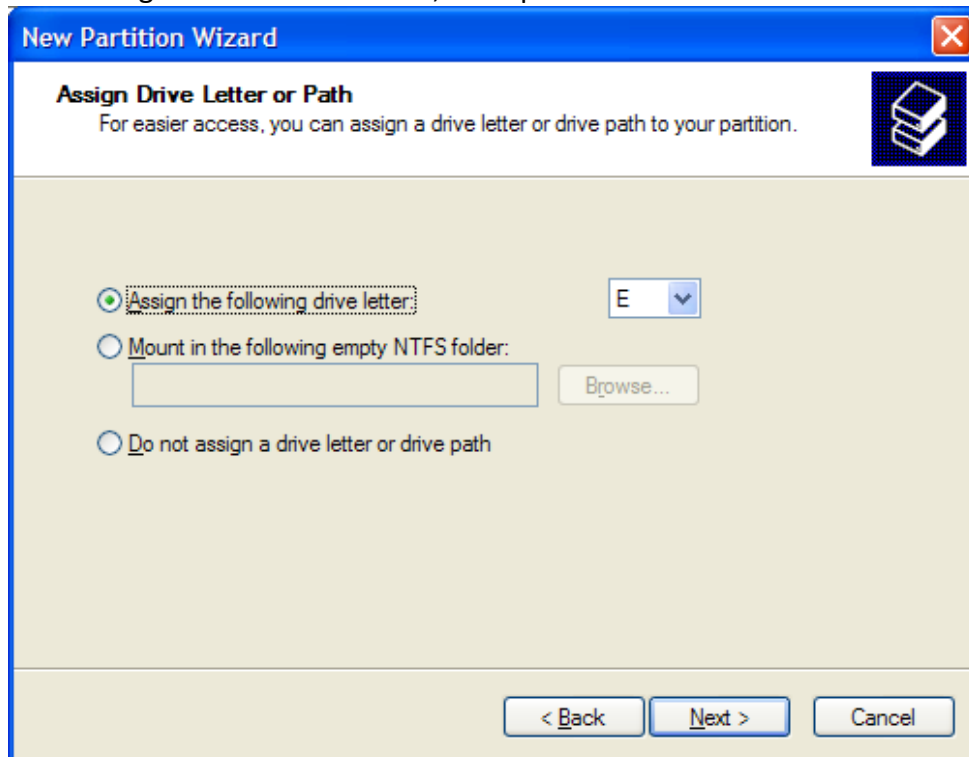
Maxium disk space in megabytes (MB): 114471

Minimum disk space in MB: 8

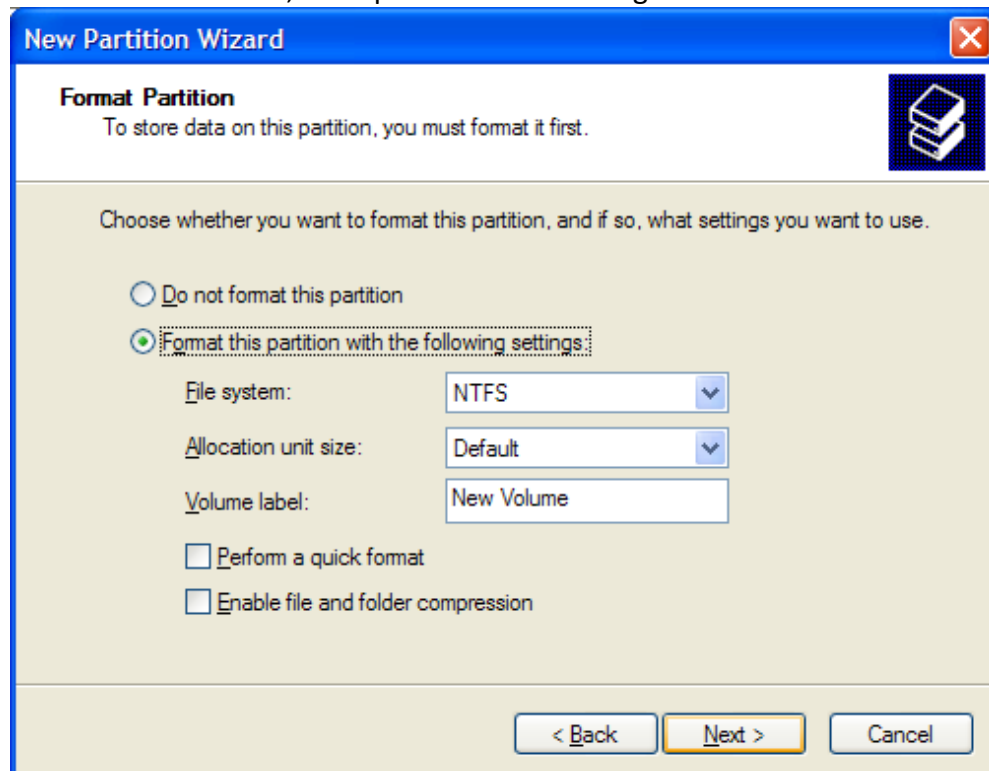
Partition size in MB: 114471

< Back Next > Cancel

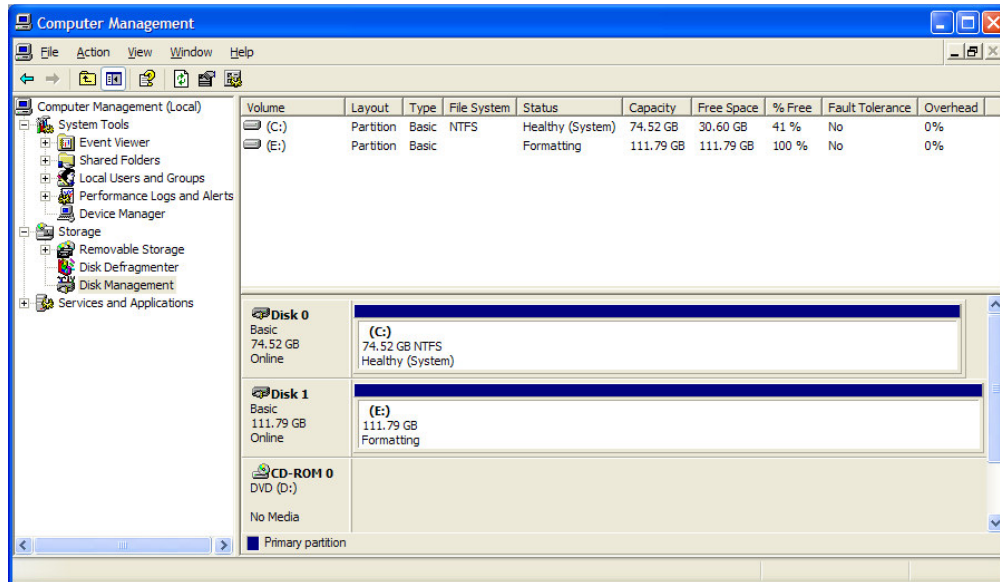
10. Under “Assign Drive Letter or Path,” accept the default letter and click “Next”.



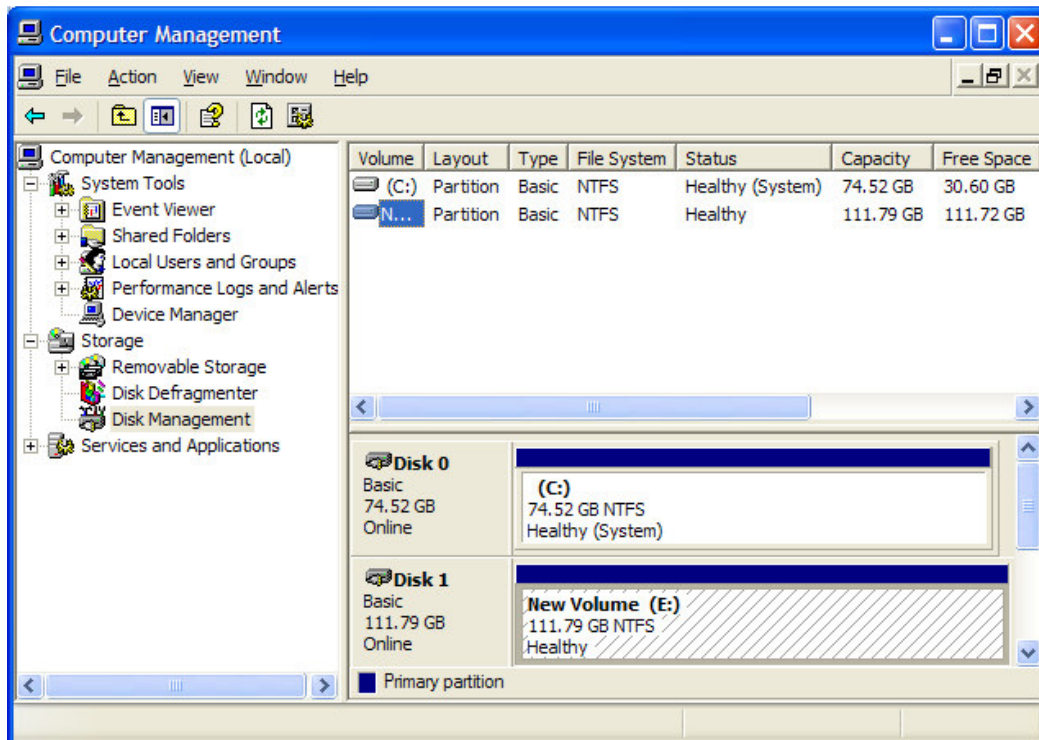
11. In the “Format Partition,” accept the default setting.



12. The “Volume label” can be changed to any name up to 11 characters.
13. Suggest that “Quick Format” be selected and then click “Next”.
14. You now reached the “Completing the New Partition Wizard” screen. It displays the various settings you previously selected. If you are satisfied with your selections, click Finish to complete the new formatting. At this time the Rocstor disk drive is being formatted, which may take a few minutes.



15. You will return automatically to the “Disk Management” window and will see the newly formatted Rocstor disk on the screen with the name you selected. If no new name was entered in the “Volume label,” the Rocstor drive will show up as “New Volume.” To rename the Volume at this time, right click “New Volume” and click “Properties.” You can now change the volume name up to 11 characters. Click OK.



16. You can also change the name at any time in the future by reaching the “Properties” menu of the Rocstor drive.
17. Exit

Troubleshooting

Rocstor data storage products are subjected to several quality control tests before leaving our factory. However, from time to time, the product may not work after shipment or would experience intermittent problems under certain criteria and/or situations. Should you experience a problem with your Rocport HD, please review the Manual and read the possible solutions that fit your problem. (The User Manual is updated regularly so check the Rocstor website for an updated Manual.) Please contact Rocstor technical support listed under contact information at the end of this Manual.

Troubleshooting for MACINTOSH computers

Problem: The computer does not recognize the drive

Solutions:

- Is the Rocport light ON and is the cable connected from the HD device to the computer. Rocport HD icon should appear on the desktop. Continue to review this guide to find the solution.
- Your computer's Minimum requirements may not meet the minimum system requirements as indicated in this Manual. See Page 7
- Rocport 3CX is bus-powered through the USB port and turns ON automatically. With USB connections you may need to connect to more ports to receive enough power depending on your computer. When connecting the Rocport drive with a USB port, certain laptop computers may not provide enough power to operate the drive. To overcome this problem, connect the Rocport drive using a USB "Y" connector or use an external power source. This problem is likely to occur when using certain brands of laptop computers.
- Please review this Manual's installation procedure for the operating system and interface you are using.
- Read the Manual's installation procedure to ensure it was properly followed.
- Please check the cable connections as the cables must be properly and securely attached to the computer and hard drive. Ensure that there is a firm connection. It is suggested that the cables be detached and reattached, and that the computer be shut OFF for 20 seconds and then restarted.
- Ensure that the Rocport drive has been properly reformatted by reviewing the User Manual.

- Have you checked to confirm that the computer's operating system works with the file system?
- Review the manual that came with your computer to ensure that the file system is compatible with the operating system.

Problem: The Rocport drive is not working fast enough.

Solution:

- You may have too many devices connected to your computer (such as Laptop computers.) Disconnect some devices and observe if there is an improvement in performance.

Problem: There is no increase in performance when the Rocport drive is connected via the USB cable to a USB 2.0 port.

Solution:

- Ensure that the USB 2.0 drivers for the host bus and device have been properly and securely installed. You may reinstall to assure proper installation.

Notes:

- When connecting the device to USB 2.0 port in your computer, please be sure that the connection at the host computer is High Speed USB 2.0 and drivers (if required) are installed; otherwise you may experience slower transfer speed between the host computer and the Rocport device.

Notes - Mac OS 10x:

- Rocport drives are designed to save electricity and subsequently the wear and tear of the internal hard drive by having the hard drive stop spinning when the Rocport is not accessed for a certain amount of time (sleeping mode). Under Mac OS 10 you it might cause an error please ignore the error message as it might take few seconds to start spinning at the designated speed (wake up.)
- You may require upgrading to a higher version of Mac OS if your host computer does not recognize the Rocport device when connected via FireWire.
- You must avoid particular characters similar to ^!?\< when coping to FAT 32 volume section.

Troubleshooting for PC WINDOWS based computers

Problem: The computer does not appear to recognize the drive

Solutions:

- A window should appear, notifying you that a device is connected and/or the Rocport HD icon should appear on the “My Computer” folder.
- Your computer Minimum requirements may not meet the minimum system requirements as indicated in this Manual. See Page 7
- Rocport 3CX is bus-powered through the USB port and turns ON automatically. With USB connections you may need to connect to more ports to receive enough power depending on your computer. When connecting the Rocport drive with a USB port, certain laptop computers may not provide enough power to operate the drive. To overcome this problem, connect the Rocport drive using a USB “Y” connector or use an external power source. This problem is likely to occur when using certain brands of laptop computers
- Please review the Manual’s installation procedure in reference to Formatting, Operating Systems and Interfaces you are using to ensure they were properly followed.
- Please check the cable connections as the cables must be properly and securely attached to the computer and hard drive. Ensure that there is a firm connection. It is suggested that the cables be detached and reattached and that the computer be shut off for 20 seconds and then restarted.
- If a conflict with drivers or extensions exists, contact Rocstor for assistance; email tech support at support@rocstor.com or call technical support department at 888.877.7716.

Problem: The FireWire ports would not mount (work) with Windows 2000

Solution:

- You may require installing Windows 2000 Service pack 4. You may download the Service Pack 4 update for free from the Microsoft website.
<http://www.microsoft.com/Downloads/details.aspx?familyid=1001AAF1-749F-49F4-8010-297BD6CA33A0&displaylang=en>

Problem: The Rocport drive is not working fast enough

Solution:

- You may have too many devices connected to your computer (in particular in case of Laptops.) Disconnect some devices and observe if there is an improvement in performance.

Problem: The performance and/or transfer speeds are slow when the Rocport drive is connected to my USB port.

Solution:

- USB ports come in different speeds from 12Mbps/s to 480Mbps/s. USB 2.0 is a High-Speed connection. If the Rocport HD is connected to a USB 1.1 port (low speed) or hub, the drive will work slower than if connected to a USB 2.0 port or hub.

Problem: There is no increase in performance when the Rocport drive is connected via the USB cable to a USB 2.0 port.

Solution:

- Ensure that the USB 2.0 drivers for the host bus and device have been properly and securely installed. You may reinstall to assure proper installation.

Problem: The drive is working slow when connected directly to a USB 2.0 port on your computer.

Solution:

- Review the minimum system requirements for your computer to ensure it supports High Speed USB 2.0.

General Notes:

- When connecting the device to USB 2.0 port in your computer please be sure that the connection at the host computer is High Speed USB 2.0 and drivers (if required) are installed otherwise you may experience slower transfer speed between the host computer and the Rocport device.

Front Light:

Problem: The front Light does not come ON.

Solutions:

- The Rocport device may not be connected to the host computer (or via a Hub).
- If connect to USB port direct or via a USB Hub, you may not receive enough power. You may need to connect the other side of the “Y” cable to the USB port or the Hub.

Situation: The light is ON but it also flickers.

Solutions:

- The Light is OFF when the drive is Reading/Writing; do not turn the device OFF in this situation as you may lose the data being transferred in R/W.
- The Light remains ON during normal or idle operation.

KNOWLEDGE BASE

Rocport 3CX Unique Features

Special Features:

- Pocket size external storage drive
- Incorporates SATA Hard Drive
- Contains USB 2.0, connection
- USB bus powered and bootable
- Speeds up to 480 Megabytes per second
- Aluminum enclosure
- Enhanced with shock-resistant chamber, despite its small size
- Reduces power consumption with hard drive spin-down support
- Automatic configuration (pre-formatted for plug and play)
- Compatible with both Windows® and Macintosh®
- Includes all necessary cables, software and carrying case
- 2 year limited warranty
- 2 year unlimited toll-free telephone tech support

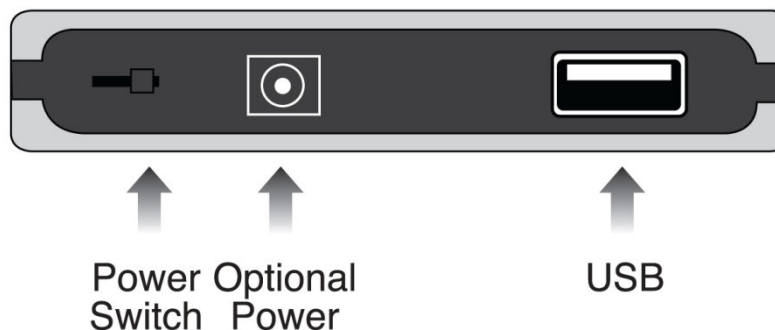


Specifications:

Dimension: ~ 4.8x2.9x0.5 inches or ~12x7.3x1.2 cm

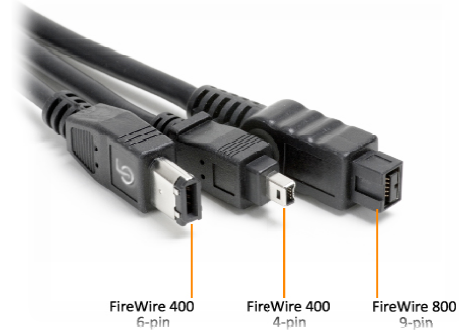
Weight: ~ 6.4 ounce (0.18 kilograms)

- **Transfer rates** USB 2.0 up to 480 Mbits/s and 1.1 up to 12 Mbits/s.



Introductions: Interfaces (ports) and Cables

FireWire is Apple Inc.'s brand name for the IEEE **1394** interface (although the 1394 standard also defines a backplane interface). FireWire is also known as **i.LINK** (Sony's name) and **DV** (Panasonic's name, not to be confused with DV camcorder tapes). It is a serial bus interface standard, for high-speed communications and isochronous real-time data transfer, frequently used in a personal computer and digital audio / digital video.



Standards and versions

FireWire 400 (IEEE 1394) 6-Pin connector can transfer data between devices at 100, 200, or 400 Mbits/s half-duplex data rates (the actual transfer rates are 98.304, 196.608, and 393.216 Mbits/s, i.e. 12.288, 24.576 and 49.152 megabytes per second respectively). These different transfer modes are commonly referred to as S100, S200, and S400.



Cable length is limited to 14.8 ft (4.5 meters), although up to 16 cables can be daisy-chained using active repeaters, external hubs, or internal hubs often present in FireWire equipment. The S400 standard limits any configuration's maximum cable length to 230ft (72 meters.) The 6-pin connector is commonly found on desktop computers and can supply the connected device with power.

The 6-pin powered connector adds power output to support external devices. Typically a device can pull about 7 to 8 watts from the port. However, the voltage varies significantly from different devices. Voltage is specified as unregulated and should nominally be about 25 volts (range 24 to 30). Apple's implementation on laptops is typically related to battery power and can be as low as 9 V but more likely about 12 V.

FireWire 400 (IEEE 1394a)

1394a also standardized the 4 pin connector already widely in use. The 4-pin version is used on many consumer devices such as camcorders, some laptops and other small FireWire devices. Though fully data compatible with 6-pin interfaces, it lacks power connectors.



FireWire 800 (IEEE 1394b) 9-pin FireWire 800/3200 (IEEE 1394b) connector was introduced commercially by Apple in 2003. This newer 1394 specification (1394**b**) and corresponding products allow a transfer rate of 786.432 Mbit/s full-duplex via a new encoding scheme termed beta mode. It is backwards compatible to the slower rates and 6-pin connectors of FireWire 400. However, while the IEEE 1394**a** and IEEE 1394**b** standards are compatible, the FireWire 800's connector is different from FireWire 400's connector, making the two cables incompatible. An adapter or adapter cable purchased from a local electronics store allows the connection of older devices to the newer port.

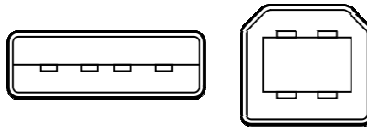


The full IEEE 1394b specification supports data rates up to 3200 Mbits/s over beta-mode optical connections up to 320 Ft (100 meters) in length.

Universal Serial Bus (USB) is a serial bus standard to interface devices. USB was designed to allow peripherals to be connected using a single standardized interface socket and to improve Plug-and-play capabilities by allowing devices to be connected and disconnected without rebooting the computer (hot-swapping). Other convenient features include providing power to low-consumption devices without the need for an external power supply and allowing many devices to be used without requiring manufacturer specific, individual device drivers to be installed.

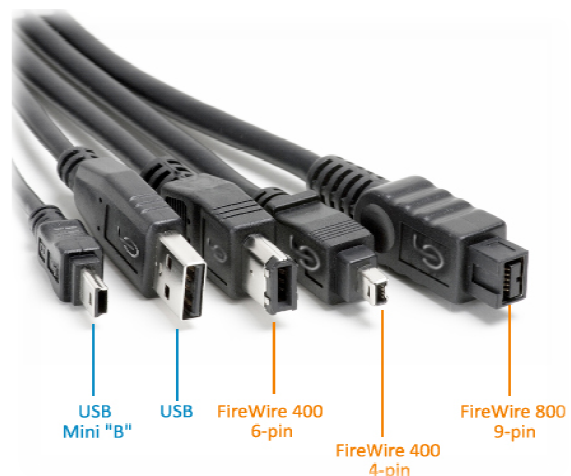


USB can connect computer peripherals such as external hard drives storage devices, keyboards, PDAs, scanners, digital cameras, printers, personal media players and flash drives. For many of those devices USB has become the standard connection method.



USB supports three data transfer rates:

- USB 2.0: A Hi-Speed rate of 480 Mbits/s (60 MB/s). All Rocstor devices are integrated with USB 2.0, *Hi-Speed*.
- USB 1.1: A **Full Speed** rate of 12 Mbits/s (1.5 MB/s). All USB Hubs support Full Speed.
- USB 1.0: A **Low Speed** rate of 1.5 Mbits/s (187 KB/s)



Compassion Chart:

	Raw Bandwidth	Transfer Speed		Power Provided	Device per channel
	(Mbits/s)	(Mbits/s)	Max. Cable Length Feet (meters)		
SAS	3000	375	26 Ft (8 m)	No	4
eSATA	3000	375	6.5 Ft (2 m)	No	1 (15 W/ port multiplier)
SATA 300	3000	375	3.3 Ft (1 m)	No	1 per line
SATA 150	1500	187.5	3.3 Ft (1 m)	No	1 per line
PATA (133)	1064	133	18 inches (0.46 meters)	No	2
FireWire 3200	3144	393	100; (Cables available for 100m+)	12–25 V, 15 W	63
FireWire 800	786	98.25	100 [11] m	12–25 V, 15 W	63
FireWire 400	393	49.13	15 Ft (4.5 m)	12–25 V, 15 W	63
USB 2.0	480	60	5 [14] m	5 V, 2.5 W	127
USB 3.0	4800	600	TBD	5 V, 2.5 W	127
Ultra -320 SCSI	2560	320	39 Ft (12 m)	No	16
Fiber Channel Over Copper Cable	4000	400	39 Ft (12 m)	No	16777216 with switches
Fiber Channel Over Fiber	10520	2000	6.5- 164000 Ft (2–50000 m)	No	16777216 with switches
Infiniband			> 32 Ft (>10 m) Copper		1 with point to point
12x quad-rate	120000	12000	<32,800 Ft (<10000 m) Fiber	No	Many W/switched Fabric

Introductions: Formatting

File Allocation Table (FAT)

FAT is a file system developed by Microsoft for MS-DOS and is the primary file system for consumer versions of Microsoft Windows.

The FAT file system is relatively uncomplicated and is supported by virtually all existing operating systems for personal computers. This makes it an ideal format for hard drives and other storage devices and a convenient way of sharing data between disparate operating systems installed on the same computer (a dual boot environment).

FAT 32 is a disk formatting scheme which allows a maximum file size of 4 GB. Larger files require another formatting type such as HFS+ or NTFS.

Microsoft's Scan-Disk utility, included with Windows 95/98, places a volume limit of 127.53 gigabytes.

FAT 32 was introduced with Windows 95 OSR2, although reformatting was needed to use it, and DriveSpace 3 (the version that came with Windows 95 OSR2 and Windows 98) never supported it. Windows 98 introduced a utility to convert existing hard disks from FAT16 to FAT32 without loss of data. In the NT line, native support for FAT32 arrived in Windows 2000.

Windows 2000 and Windows XP can read and write to FAT32 file systems of any size, but the format program included in Windows 2000 and higher can only create FAT32 file systems of 32 GB or less. This limitation is by design and was imposed because many tasks on a very large FAT32 file system become slow and inefficient when file systems exceed 32GB. This limitation can be bypassed when using the Windows command line Format utility or by using third-party formatting utilities.

The maximum possible size for a file on a FAT32 volume is 4 GB minus 1 byte. Video capture and editing applications and some other software can easily exceed this limit.

Until mid-2006, those who run dual boot systems or who move external data drives between computers with different operating systems had little choice but to stick with FAT32. Since then, full support for NTFS has become available in Linux and many other operating systems, by installing the FUSE library (on Linux) together with the NTFS-3G application. Data exchange is also possible between Windows and Linux by using the Linux-native ext2 or ext3 file systems through the use of external drivers for Windows, such as ext2 IFS. However, Windows cannot boot from ext2 or ext3 partitions.

HFS Plus or HFS+

This is a file system developed by Apple Inc. to replace their Hierarchical File System (HFS) as the primary file system used in Macintosh computers (or other systems running Mac OS). It is also one of the formats used by the iPod digital music player. HFS Plus is also referred to as **Mac OS Extended** (or, erroneously, “HFS Extended”), where its predecessor, HFS is also referred to as *Mac OS Standard* (or, erroneously, as “HFS Standard”). During development, Apple referred to this file system with the codename *Sequoia*.

HFS Plus is an improved version of HFS, supporting much larger files (block addresses are 32-bit length instead of 16-bit) and using Unicode (instead of Mac OS Roman or any of several other character sets) for naming the items (files, folders). Names were normalized to a form very nearly the same as NFD (there are some minor differences derived from the fact that the HFS Plus format was finalized before Unicode had standardized the NFD format). HFS Plus permits filenames up to 255 UTF-16 characters in length, and n-forked files similar to NTFS, though almost no software takes advantage of forks other than the data fork and resource fork. HFS Plus also uses a full 32-bit allocation mapping table, rather than HFS’s 16 bits. This was a serious limitation of HFS, meaning that no disk could support more than 65,536 allocation blocks under HFS. When disks were small, this was of little consequence, but as larger-capacity drives became available, it meant that the smallest amount of space that any file could occupy (a single allocation block) became excessively large, wasting significant amounts of space. For example, on a 1 GB disk, the allocation block size under HFS is 16 KB, so even a 1 byte file would take up 16 KB of disk space.

HFS Plus volumes are divided into sectors (called logical blocks in HFS) that are usually 512 bytes in size. These sectors are then grouped together into allocation blocks which can contain one or more sectors. The number of allocation blocks depends on the total size of the volume. HFS Plus uses a larger value to address allocation blocks than HFS, 32 bits rather than 16 bits. This means it can access 4,294,967,296 ($=2^{32}$) allocation blocks rather than the 65,536 ($=2^{16}$) allocation blocks available to HFS.

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Rocstor products are manufactured using new materials or new and used materials equivalent to new in performance and reliability. Spare parts may be new or equivalent to new. Spare parts are warranted to be free from defects in material or workmanship for thirty (30) days or for the remainder of the Limited Warranty Period of the Rocstor hardware product in which they are installed, whichever is longer.

Rocstor's Obligation under the Limited Warranty

During the Limited Warranty Period, Rocstor will repair or replace the defective component parts or the hardware product. All component parts or hardware products removed under this Limited Warranty become the property of Rocstor. The replacement part or product takes on either the Limited Warranty status of the removed part or product or the thirty (30) day limited warranty of the spare part. In the unlikely event that your Rocstor product has a recurring failure, Rocstor, at its discretion, may elect to provide you with a replacement unit of Rocstor's choosing that is at least equivalent to your Rocstor branded product in hardware performance. Rocstor reserves the right to elect, at its sole discretion, to give you a refund of your purchase price or lease payments (less interest) instead of a replacement. This is your exclusive remedy for defective products. The original Limited Warranty is not extended when the product, or a part of the product, is repaired or replaced during the Limited Warranty period. Rocstor shall not be responsible or liable for backing up any data that is on a drive being returned for service.

YOU SHOULD MAKE PERIODIC BACKUP COPIES OF THE DATA STORED ON YOUR HARD DRIVE OR OTHER STORAGE DEVICES AS A PRECAUTION AGAINST POSSIBLE FAILURES, ALTERATION, OR LOSS OF THE DATA. BEFORE RETURNING ANY UNIT FOR SERVICE, BE SURE TO BACK UP DATA AND REMOVE ANY CONFIDENTIAL, PROPRIETARY, OR PERSONAL INFORMATION. ROCSTOR IS NOT RESPONSIBLE FOR DAMAGE TO OR LOSS OF ANY PROGRAMS, DATA, OR REMOVABLE STORAGE MEDIA. ROCSTOR IS NOT RESPONSIBLE FOR THE RESTORATION OR REINSTALLATION OF ANY PROGRAMS OR DATA OTHER THAN SOFTWARE INSTALLED BY ROCSTOR WHEN THE PRODUCT WAS MANUFACTURED.

Rocstor does not warrant that the operation of this product will be uninterrupted or error-free. Rocstor is not responsible for damage that occurs as a result of your failure to follow the instructions that came with the Rocstor branded product.

This Limited Warranty does not apply to expendable parts. This Limited Warranty does not extend to any product from which the serial number has been removed or that has been damaged or rendered defective (a) as a result of accident, misuse, abuse, or other external causes; (b) by operation outside the usage parameters stated in the user documentation that shipped with the product and/or posted on the Rocstor website; (c) by the use of parts not manufactured or sold by Rocstor; (d) as a result of normal wear; or (e) by modification or service by anyone other than (i) Rocstor, (ii) a Rocstor authorized service provider, or (iii) your own installation of end-user replaceable Rocstor or Rocstor approved parts if available for your product in the servicing country.

These terms and conditions constitute the complete and exclusive limited warranty agreement between Rocstor and you regarding the Rocstor branded product you have purchased or leased. These terms and conditions supersede any prior agreements or representations including representations made in Rocstor sales literature or advice given to you by Rocstor or an agent or employee of Rocstor-that may have been made in connection with your purchase or lease of the Rocstor branded product. No change to the conditions of this Limited Warranty is valid unless it is made in writing and signed by an authorized representative of Rocstor.

Buyer's Obligation under the Warranty

The person requesting coverage under this warranty shall prove that he or she is the original purchaser and declares that the product has not been sold, leased, bartered or otherwise changed possession. **The purchaser shall frequently backup the Rocport hard drive and backup the data immediately prior to returning the drive for warranty service.**

The buyer must notify Rocstor and show proof of notification, through any reasonable means of communication. See full street address email address and toll free phone numbers below or updated contact information are available on Rocstor.com website. The notification shall identify any defect, malfunction, or nonconformity promptly upon discovery. Rocstor will acknowledge receipt of the communication and issue a Return Merchandise Authorization (RMA) code. The buyer is obligated to securely and safely package(s) the product, preferably in the original packing materials, WITH THE RMA number, and deliver it together with a copy of the original purchase receipt and a description of the problem to the Rocstor home office. Buyer is responsible for the product until it is received by Rocstor. It is recommended that the product be insured during transportation by the sender. You must prepay any shipping charges, taxes, or duties associated with transportation of the product. In addition, you are responsible for insuring any product shipped or returned for service. You assume risk of loss during shipping.

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IF YOUR ROCSTOR BRANDED HARDWARE PRODUCT FAILS TO WORK AS WARRANTED ABOVE, THE ORIGINAL PURCHASER'S SOLE AND EXCLUSIVE REMEDY SHALL BE REPAIR OR REPLACEMENT. ROCSTOR'S MAXIMUM LIABILITY UNDER THIS LIMITED WARRANTY IS EXPRESSLY LIMITED TO THE LESSER OF THE PRICE YOU HAVE PAID FOR THE PRODUCT OR THE COST OF REPAIR OR REPLACEMENT OF ANY ROCSTOR HARDWARE COMPONENTS THAT

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The limited warranty period for Rocport ID is two (2) Years Parts and Labor. This Limited Warranty extends only to the original purchaser or lessee of this Rocstor branded product and is not transferable to anyone who obtains ownership of the Rocstor branded product from the original purchaser or lessee.

Types of Limited Warranty Service

Your Rocstor Limited Warranty consists of repair or replacement of defective parts, including hard drives identified by Rocstor Support Organization as “pre-failure.”

Carry-in Limited Warranty Service Available Monday - Friday

Under the terms of carry-in service, you may be required to deliver your Rocstor product to the Rocstor Service Center or an authorized service location for warranty repair. You must prepay any shipping charges, taxes or duties associated with transportation of the product. In addition, you are responsible for insuring any product shipped or returned for service. You assume risk of loss during shipping.

YOU SHOULD MAKE PERIODIC BACKUP COPIES OF THE DATA STORED ON YOUR HARD DRIVE OR OTHER STORAGE DEVICES AS A PRECAUTION AGAINST POSSIBLE FAILURES, ALTERATION OR LOSS OF THE DATA. BEFORE RETURNING ANY UNIT FOR SERVICE, BE SURE TO BACK UP DATA AND REMOVE ANY CONFIDENTIAL, PROPRIETARY OR PERSONAL INFORMATION. ROCSTORAGE IS NOT RESPONSIBLE FOR DAMAGE TO OR LOSS OF ANY PROGRAMS, DATA OR REMOVABLE STORAGE MEDIA. ROCSTORAGE IS NOT RESPONSIBLE FOR THE RESTORATION OR REINSTALLATION OF ANY PROGRAMS OR DATA OTHER THAN SOFTWARE INSTALLED BY ROCSTORAGE WHEN THE PRODUCT WAS MANUFACTURED.

Rocstorage shall not be responsible or liable for backing up any data that is on a drive being returned for service. Expect that all data on the drive will be destroyed and not retrievable when returned for warranty service.

Rocstor Replaceable Parts Program

Where available, the Rocstor Replaceable Parts program ships approved replacement parts directly to you to fulfill your warranty. This will save considerable repair time. After you call the Rocstor Technical Support Center at **888.877.8777** a replaceable part can be sent directly to you. Once the part arrives, call the Rocstor Technical Support Center. A technician will assist you over the phone to ensure that the installation is quick and easy.

Service Upgrades

Rocstor offers extra coverage for your product. For information on service upgrades, visit www.rocstor.com. Service upgrades purchased in one country are not transferable to another country.

Capacity Disclaimer

Actual accessible hard drive capacity will indicate up to 10% lower than stated under different Operating Systems and formatting.

The storage volume is measured in total bytes before formatting. References to round numbers of gigabytes or terabytes are an approximation only. For example, a disk drive labeled as having 500GB (Gigabytes) has space for approximately 500,000,000 bytes before formatting. After formatting, the drive capacity is reduced by about 5% to 10% depending on the operating system and formatting used or "1GB = 1,000,000,000 bytes.

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The Limited Warranty terms and conditions for Rocstor options are as indicated in the Limited Warranty applicable to Rocstor options. ROCSTOR DOES NOT WARRANTY SOFTWARE PRODUCTS, INCLUDING ANY SOFTWARE PRODUCTS OR THE OPERATING SYSTEM PREINSTALLED BY ROCSTOR. Rocstor's only obligations with respect to software distributed by Rocstor under the Rocstor brand name are set forth in the applicable end-user license or program license agreement. Non-Rocstor hardware and software products are provided "AS IS" and without any Warranty. However, non-Rocstor manufacturers, suppliers or publishers may provide their own warranties directly to you.

The data stored in Rocstor and Rocsecure storage product lines are not guaranteed by Rocstor (or the hard disk manufacturer.) We are not responsible for any loss of data. Always back up data regularly

TECHNICAL SUPPORT

Software Technical Support

Software technical support is defined as assistance with questions and issues about the software that was either preinstalled by Rocstor on the Rocstor branded product or that was included with the Rocstor branded product at the time of your purchase or lease of the product. Technical support for software is available for the first ninety (90) days from date of product purchase or lease. Your dated sales or delivery receipt, showing the date of purchase or lease of the product, is your proof of the purchase or lease date. You may be required to provide proof of purchase or lease as a condition of receiving software technical support. After the first ninety (90) days, technical support for software that was either preinstalled by Rocstor on the Rocstor branded product or included with the Rocstor branded product at the time of your purchase or lease of the product is available for a fee.

WARNING: The individual user should take care to determine prior to use whether this device is suitable, adequate or safe for the use intended. Since individual applications are subject to great variation, the manufacturer “Rocstor” makes no representation or warranty as to the suitability or fitness of these devices for any specific application.

Technical Support

All Rocstor hard drives are backed by free telephone technical support for two (2) years from the date of purchase. Please register your product with Rocstor. To register, fill in the Limited Warranty Registration form in the Support tab at www.rocstor.com.

Free telephone technical support is available weekdays from 9 AM until 6 PM Pacific Standard Time. Customers in the United States and Canada can call toll-free: **(888) 877-8777**; all others must call **(818) 449-2000**.

When calling for support, please have the product’s serial number (printed on the label on the bottom of the drive) and system hardware information available.

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Rocstor wishes to acknowledge the use of tables, charts, graphs and texts from the Wikipedia website.

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Assembled/designed/integrated in U.S.A. using domestic and / or foreign components.

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Tel: (888) 877-7716
Fax: (818) 884-8777

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Our Corporate Sales Team's goal is to help our U.S.A. and Canadian customers find a storage solution that best serves their needs. We will help you determine your best purchasing options. For more information please contact the appropriate department below or call us at +1 (888) 877-7716

General sales information: sales@Rocstor.com
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Available in Silver, Black and velvet Red

Thank you for purchasing Rocport 3Cx.

Rocstor

Ver.0426I